REMARKS

Applicants hereby request further consideration of the application in view of the amendments above and the comments that follow.

Objection to the Drawings

The Action requires that **Figure 2** be corrected to show elements **156** and **112**. However, neither the platter region **112** nor the opening **156** is visible in **Figure 2**. These elements are, however, shown and labeled in **Figure 1** as amended by Applicants' Response dated June 19, 2006. Accordingly, Applicants respectfully submit that no drawing corrections are needed.

Status of the Claims

Claims 1-12 are pending the present application. Claims 1 and 2 stand rejected under Section 102(b) as being anticipated by U.S. Patent No. 6,709,520 to Leycuras (Leycuras). Claims 3, 8, 9 stand rejected under Section 103(a) as being unpatentable over Leycuras in view of U.S. Patent No. 3,845,738 to Berkman et al. (Berkman). Claims 4 and 11 stand rejected under Section 103(a) as being unpatentable over Leycuras in view of U.S. Patent No. 5,667,587 to Glass (Glass). Claims 5-7 stand rejected under Section 103(a) as being unpatentable over Leycuras in view of U.S. Patent No. 6,406,983 to Hölzlein (Hölzlein). Claim 10 stands rejected under Section 103(a) as being unpatentable over Leycuras in view of Berkman and further in view of U.S. Patent No. 6,569,250 to Paisley et al. (Paisley). Claim 12 stands rejected under Section 103(a) as being unpatentable over Leycuras in view of U.S. Patent No. 5,695,567 to Kordina et al. (Kordina).

The Rejections Under Section 103

Claim 5 stands rejected under Section 103 over Leycuras in view of Hölzlein. Claim 5 recites:

> 5. A housing assembly for an induction heating device, the housing assembly defining a processing chamber and comprising:
>
> a) a susceptor surrounding at least a portion of the processing chamber; and

b) a thermally conductive liner interposed between the susceptor and the processing chamber, wherein the liner is separately formed from the susceptor;

c) wherein the susceptor includes a susceptor core of a first material and a susceptor coating of a second material; and

d) wherein the second material is selected from the group consisting of refractory metal carbides; and

e) wherein the liner is interposed between the susceptor coating and the processing chamber.

An exemplary housing assembly **100** is disclosed in Applicant's specification. The housing assembly **100** may provide for a more efficient, convenient and durable heating device, particularly where a refractory metal carbide such as TaC is used for the coatings **117**, **127** on the susceptor cores **115**, **125** and SiC is used for the coatings **137**, **147**, **157**, **167** on the side susceptor cores **135**, the platter core **145**, and the liner cores **155**, **165**. The TaC coatings **117**, **127** may serve to reduce thermal radiation losses and prevent or reduce undesirable sublimation of the SiC coatings. The TaC coating in the platter region **112** of the bottom susceptor **110** may provide a more durable platform for the rotating platter **140**. The provision of the SiC coatings in fluid communication with the passage **102** and in the vicinity of the substrate take advantage of the adherent nature of parasitic SiC deposits to the SiC coatings and the chemical, thermal, mechanical, and structural similarity of the SiC coatings and the SiC substrate **5**. The SiC coatings **137** on the side susceptor members **130** may assist in reducing the heating of the side susceptors due to induction heating.

In support of the rejection of Claim 5, the Action states:

> Regarding Claims 5-7: Leycuras teaches all limitations of the claims including that duct (susceptor) 6 is made of graphite. Leycuras also teaches that inner surface of susceptor walls 37, 38 can be coated (that is, liner 70 will be disposed between the coating and processing chamber). Leycuras also teaches that duct (susceptor) can be made of refractory material [column 4, line 45 to column 5, line 25].
>
> Leycuras does not explicitly teach that coating (second material) is made from refractory metal carbides.
>
> Hölzlein et al teach a housing assembly (Figures 1, 2) for an induction heating device, the housing assembly defining a processing chamber and comprises a susceptor 13 and a base plate (thermally conductive liner) 17 and where the susceptor has a coating 20 of TaC

> (refractory metal carbide) {Column 7, lines 15-65}.
>
> Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to form the susceptor having a coating of refractory metal carbide as taught by Hölzlein et al in the apparatus of Leycuras to minimize out-gassing of susceptor material molecules during operation of the apparatus (column 4, lines 45-55).

Applicants respectfully submit that this rejection is not supported by the cited art, as discussed hereafter.

Applicants first note that the duct **6** is not a susceptor. Per Leycuras, the process chamber heat is generated by first and second heating means **8**, **9**, not the duct **6**. *See, e.g.*, col. 5, lines 37-49. While Leycuras suggests that the heating means **8**, **9** may be "induction heating means" that "form only a single device placed around the duct **6**, etc." (*see* col. 8, line 62 to col. 9, line 4), there is no apparent suggestion to use the duct **6** as a susceptor of an induction heating device. Thus, the coating to which the Action refers is not a coating on a susceptor as recited in Claim 5. Accordingly, the cited art as construed by the Action fails to disclose this aspect of the application as claimed.

Additionally, while Hölzlein discloses a coating **20** of TaC, it does not teach or suggest the aspect for which it is cited and, in particular, Holzlein does not suggest the modification to Leycuras proposed by the Action. The baseplate **17** of Hölzlein is located between the outer container layer **21** and the coating **20**, not between the coating **20** and the processing chamber. By design, the TaC coating **20** of Hölzlein interfaces with the gas stream. *See, e.g.*, Hölzlein at col. 7, lines 39-48 and lines 60-64. Thus, Hölzlein does not suggest the use of a coating of a refractory metal carbide on a susceptor core, wherein a liner is interposed between the coating and a processing chamber. Moreover, Hölzlein teaches nothing with respect to materials for use in coating a susceptor core separated from a processing chamber by a liner.

Leycuras itself does not teach or suggest the claimed invention or the proposed modification in view of Hölzlein. The Action contends that, by teaching that the inner surfaces of the walls **37**, **38** of the duct **6** can be coated, Leycuras teaches that the plates **70** will be interposed between this coating and the processing chamber. However, as best understood, Leycuras does not teach or suggest the provision of both a coating and the plates

70 (*i.e.*, the secondary duct). Moreover, the passage at col. 4, lines 45-55 of Leycuras cited by the Action to demonstrate motivation for the proposed modification does not suggest use of a refractory metal carbide coating, but rather a coating of a material such as SiC that is intended to be deposited on the substrate.

In view of the foregoing, Applicants respectfully submit that Claim 5 is patentable over the cited art. Claims 1-4 and 6-12 depend from Claim 5 and are therefore allowable for at least the foregoing reasons. At least certain of the dependent claims are further distinguishable from the cited art, as follows.

Claim 12 depends from Claim 5 and further recites that "the liner includes a portion formed of SiC interfacing with the processing chamber." This recitation further distinguishes the claimed invention from the proposed combination of Leycuras and Hölzlein (Hölzlein teaches that the TaC coating **20** interfaces with the gas stream). Claim 12 is separately rejected under Section 103 over Leycuras in view of Kordina. However, Kordina in no way satisfies the deficiencies as discussed above with regard to the rejection of Claim 5 over Leycuras in view of Hölzlein. For example, Kordina does not teach the use of a coating selected from the group consisting of refractory metal carbides.

CONCLUSION

Applicants submit that the present application is in condition for allowance and the same is earnestly solicited. Should the Examiner have any matters outstanding of resolution, he is encouraged to telephone the undersigned at 919-854-1400 for expeditious handling.

Respectfully submitted,

David D. Beatty
Registration No. 38,071

Myers Bigel Sibley & Sajovec, P.A.
P. O. Box 37428
Raleigh, North Carolina 27627
Telephone: (919) 854-1400
Facsimile: (919) 854-1401
Customer Number 20792

CERTIFICATION OF ELECTRONIC TRANSMISSION UNDER 37 CFR § 1.8

I hereby certify that this correspondence is being transmitted electronically to the U.S. Patent and Trademark Office on February 8, 2007 using the EFS.

Katie Wu
Date of Signature: February 8, 2007